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GEOGRAPHIC SCHOOL BULLETINS

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Ruth Allen

CART-WHEEL HATS, ASLANT AGAINST THE SUN, SET A LUZON STYLE NOTE

Not style, but utility, prompts the startling headdress of these Filipina rice harvesters. Thick-brimmed hats, made of split bamboo and palm-leaf strips, shade the head and shoulders. Flowing scarfs protect the neck as the girls lean over sharp-edged rice stalks. With a small knife they cut the stalks one by one; accumulated handfuls go into the basket (Bulletin No. 5).

GEOGRAPHIC SCHOOL BULLETIN

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Hokkaido Was Japan's "Wild West" Seventy-five Years Ago

HOKKAIDO, Japan's northernmost home island, now occupied by United States forces, was little more than a frontier wilderness as late as 1870. On September 18, 1945, it was the base from which B-29's took off for the longest nonstop flight by American flyers—5,995 miles from Japan to Chicago.

As recently as 75 years ago Hokkaido had only 66,618 inhabitants—two people per square mile. Then the Japanese saw the value of the resources in lumber and iron ore, and at the same time realized the importance of developing the island as a buffer against enemy approach from Asia's Siberian mainland. Railroads were built and farmers from Honshu were offered inducements to try their fortunes as pioneers on the new frontier. By 1939, Hokkaido's population had jumped fifty-fold, to 3,300,000.

Farmers Prefer Warmer Honshu

But great as the jump was, it proved only that Hokkaido's attractions were not enough to stampede the crowded farmers of Honshu. Although Maine-size Hokkaido has almost one-fourth of Japan's total home-island area, it still has less than one-twentieth of the population. Most of the growth is centered in port and railroad cities along the island's southern and southwestern shores rather than on the inland plains suited for agriculture.

The agricultural development of Hokkaido is held back by its cold climate. If the island were transported to the eastern coast of North America in the same latitudes, it would extend from the latitude of Boston to that of northern Nova Scotia. Warmth-loving farmers would rather stick to their rice growing on half-acre patches of Honshu than spread out in a region where year-round temperatures average 40 degrees Fahrenheit. Little more than half of Hokkaido's four million farmable acres had come under cultivation before the war.

In the northern part of the island live some 16,000 Ainus (illustration, next page), remnant of a people of possible Caucasian origin. In early Christian times they moved down the island chain from Siberia into conflict with Japanese moving up from the south.

The Japanese, masters of the islands from the 10th century on, called their northern island Yezo ("land of the savages") until late in the 19th century when the name was changed to Hokkaido ("northern road") to conform to a new name system.

Southern Hokkaido within Sight of Honshu

Hokkaido's industries deal with the raw materials of the island. Canneries preserve fish. Mills process native timber that normally amounts to one-sixth of the empire's total cut. From part of the timber one-fourth of Japan's wood pulp is produced.

Muroran, city of 108,000, heavily shelled from off the south coast by U. S. warships, grew as an iron and steel town because of near-by deposits of iron ore and coal. Its most important plant was the Wanishi Steel Works. Muroran's mills outgrew the local iron-ore supply and had to import ore from Asia. It had a large farm-implement plant.

Hakodate, city of 207,000, is Hokkaido's biggest port and the ferry-rail station at the island's southern tip, within sight of Honshu's northernmost point

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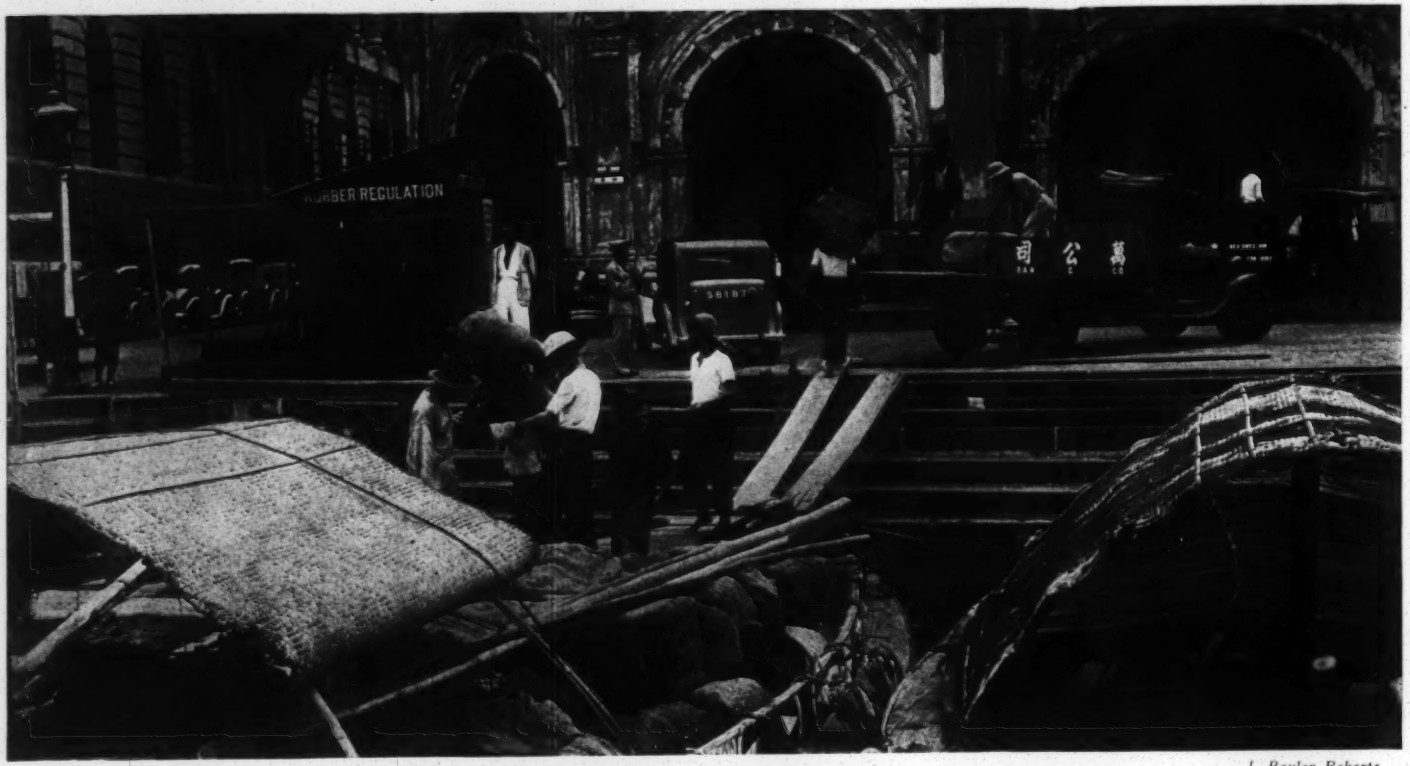

J. Baylor Roberts

MATTING-TOPPED BOATS AGAIN BRING MALAYAN CRUDE RUBBER TO SINGAPORE'S DOCKS

With the return of peace, natural rubber is coming from the recaptured plantations of Malaya. *Tongkangs*—canopied native craft—acting as lighters, transport the huge bales of crude rubber from interisland steamers anchored in the roadstead to the great port's waterfront. Some of the bales weigh as much as 300 pounds. They are checked at the Rubber Regulation Office, a small square shanty on wheels (left), and then loaded on the trucks of buyers. Factories scattered over the world convert the crude material into tires and other goods as welcome in peace as they were essential in war (Bulletin No. 3).

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Kiel Canal and Rhine River Long Served International Trade

(These waterways are among those which President Truman has suggested be internationalized. The Danube was covered in the October 1 issue of the Bulletins.)

THE Kiel Canal (Kieler Kanal) cuts diagonally across the Jutland Peninsula to connect the Baltic and North seas. It lies wholly within the boundaries of prewar Germany. Only 61 statute miles in length, it saves ships as much as 600 miles in passing between ports on the two seas and makes unnecessary the time-consuming run through the narrow passages south of the Kattegat.

The waterway is constructed at sea level but employs a lock at each end to control the tidal flow. It was built by the German government between 1887 and 1895 and has been widened several times to accommodate ever larger ships.

Just before World War I, Germany widened the canal again. British naval superiority kept the German fleet bottled up in the canal during much of that conflict. It was from this retreat that the fleet issued in 1918 to fight the Battle of Jutland, off the Danish coast.

Germany Won Canal Land by Battle in 1864

In World War II the canal was one of the most carefully guarded parts of Germany, invaluable for speeding shipments of coal, iron, and many other war supplies. Sweden's iron ore, en route to Ruhr steel mills, went through the Kiel Canal. Light planes of the Allies succeeded in laying mines in the canal, sinking barges and making the water link useless much of the time.

Conceived as a factor in European wars, the canal was contemplated for many years before actual construction began. The war of 1864 between Prussia and Austria on one side and Denmark on the other gave German Chancellor Bismarck the Danish territory through which the canal was to be cut.

In peacetime about 50,000 ships used this short cut between the Baltic and North seas each year, about a fourth of them flying flags other than German. Between the grassy banks of this international highway passed the ships of Great Britain, Sweden, Denmark, Russia, and Lithuania, often at a saving of more than 40 hours of steaming time.

The Treaty of Versailles undertook the regulation of tolls through the canal, and opened it to merchantmen and warships of all nations as long as they were at peace with Germany. This provision was broken by Germany in 1936, when the Nazi government seized complete control of the canal.

Rhine Basin Covers Part of Several Nations

A chief waterway of Europe since the earliest times, the Rhine occupies a basin so rich in minerals that it naturally became one of the world's leading industrial areas. Serving industries and their workers has been the principal role of the river in its modern period. Coal, iron ore, grain—all bulk commodities seeking cheap transportation—made up four-fifths of the water-borne commerce in prewar years. Neighboring countries and distant nations shared this trade.

Coal and lignite from German fields contributed most of the freight. A large part was used in plants along the river, but some went to the Netherlands and to Belgium by canals. Much imported iron ore reached Ruhr foundries via the Rhine.

Concentration and growth of the industrial population created a need to im-

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across the Strait of Tsugaru. It had dockyards, oil refineries, food canneries, a cement plant, and textile mills. It was off Hakodate that Commodore Matthew Perry anchored four U. S. battleships in 1854 after his visit to Uraga at the mouth of Tokyo Bay.

Hokkaido's greatest concentration of people and principal industrial belt is along 20 miles of railroad on the southwest coast, connecting the port city of Otaru (160,000) with the capital and No. 1 city, Sapporo (220,000). Sapporo itself is perhaps more like an American city than any other city in Japan. It was planned by an American engineer who used Washington, D. C., as his pattern. It has broad avenues and tree-shaded parks, modern hotels, and government buildings of stone, brick, and cement. The New England type of architecture prevails.

Note: Hokkaido is shown on the National Geographic Society's Map of Japan and Adjacent Regions. A price list of maps may be obtained from the Society's headquarters, Washington 6, D. C.

For additional information on Japan's home islands, see "Japan and the Pacific," in the *National Geographic Magazine* for April, 1944; and "Unknown Japan," August, 1942*.

See also "Honshu Is Japan's Main Island in Name, Size, and Wealth," in the GEOGRAPHIC SCHOOL BULLETINS, October 1, 1945. *(Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00.)*

Bulletin No. 1, October 8, 1945.

W. Robert Moore

AINUS, NIPPON'S ABORIGINES, LIVE IN HOKKAIDO'S "INDIAN RESERVATIONS"

These light-skinned people of Caucasian descent inhabited Japan before the yellow man came. The Japanese gradually pushed them north and nearly exterminated them. Trademarks of the several Ainu villages on Hokkaido are thatched homes and bear cages. The bear meat is eaten as ceremonial food. The animals are fattened in log cribs raised from the ground (left). Ainu men wear long Santa Claus beards. Women tattoo their upper lips on marriage.

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Singapore, City of the Lion, a Commercial Outpost Once More

WITH the ousting of the Japanese, Singapore is resuming its place as a trade center of the Orient. Barter has given place to exchange of the more usual currency; shops, stocked with goods the merchants managed to hide from the Japanese, are doing business; streetcars are running; restaurants and theaters have opened, and the lights of the city's great amusement park have blazed out once more. After three and one-half years of Japanese occupation, the City of the Lion (from the Sanskrit, *Singhapura*) is in British hands again.

Singapore reached its modern commercial importance from a start as a mere trading settlement. It was established in 1819 by Sir Thomas Stamford Raffles as a post of the British East India Company. In 1824 the concession granted by the Sultan of Johore and the Temenggong, Chief of Singapore, was expanded to give the entire island to the British. When the Crown Colony of the Straits Settlements was organized in 1826, the city and island of Singapore were included. The city became the capital of the colony, which comprised Singapore, Penang, Malacca, and a number of small islands.

Ships of All the World Met in the Harbor

The city of Singapore stands about midway of the southern coast of the Island of Singapore—a hilly, tree-grown, oval land mass lying off the southern tip of the Malay Peninsula. About 26 miles long and 14 miles across at its widest, the island covers nearly 224 square miles. It is separated from the mainland by the Strait of Johore, which varies in width from one-half to two miles. A causeway linking the island to the mainland normally carried both rail and vehicular traffic.

The fortunes of the city have been based on trade (illustration, inside cover). Established as a free port, Singapore grew rapidly with the development of the Malay States to the north. The position of the port on Britain's "life line" from the home isles through the Mediterranean and the Indian Ocean, via India, to Australia, gave it naval as well as commercial importance. Lying at the point where the Strait of Malacca leads into the South China Sea, Singapore's spacious harbor was in peacetime crowded with passenger liners and freighters from all over the world. The port was served by 80 steamship lines, and cleared about 30,000 vessels annually. Retail and wholesale establishments were so numerous that Singapore was regarded as a city of shopkeepers.

Among the notable buildings were the very modern railway station, soundproofed with rubber locally processed for the purpose; the governor's residence, the government offices and law courts; and Raffles College and Raffles Museum, named for the city's founder. The museum has the world's best collection of birds and mammals of Malaysia.

Chinese Largest Factor in City's Population

Religious edifices included the big Protestant cathedral of St. Andrew, Roman Catholic churches, ornate temples of Eastern religions, and small wayside shrines. Modern shops, banks, and office buildings bordered Raffles Place—the commercial center—and the harbor, along Collyer Quay.

The city's prewar population of about 770,000 was mostly Chinese (illustration, next page) with many Malaysians and East Indians. Less than two per cent was European. The mixed population has created such special problems for the

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port cereals. These grains, for the most part, ordinarily came from Russia, Romania, Argentina, Canada, and the United States. Cargoes moved through the Netherlands port of Rotterdam and through the Belgian port of Antwerp either directly by river, by canalized connections, or by railway transshipment.

The two river-mouth ports put the Netherlands and Belgium in a special position as possessors of the keys to the entrances and exits of what was predominantly a prewar German waterway. Switzerland uses the Rhine as a route to the sea, and a route to assure coal and iron and steel for its factories.

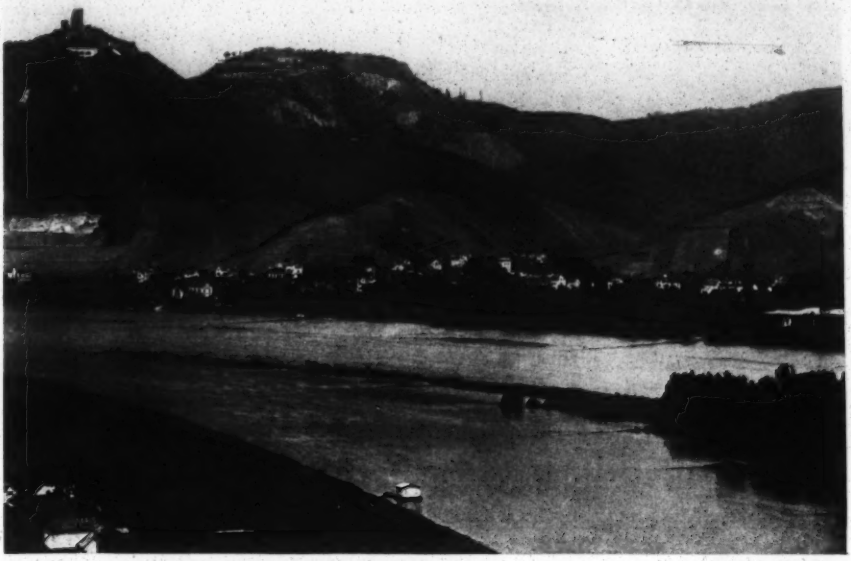
The Treaty of Paris in 1814 declared that the Rhine should be open to all nations. This declaration was confirmed more than a hundred years later by the peace agreement following World War I. Peacetime traffic was regulated by a commission including members from countries outside the river's basin as well as those washed by its waters. Navigation was made virtually toll free in 1868 when Prussia led other German states in lifting the long-standing charges.

The river rises as a two-headed stream in southern Switzerland, enters the Boden See (Lake Constance), and emerges to continue its winding 850-mile course to its multi-mouthed outlet in the Low Countries. In its oceanward journey it picks up several important tributaries, such as the Lahn, the Neckar, the Main, and the Ruhr from the east, and the Mosel from the west.

In some stretches the river is an international boundary. It is a frontier between Switzerland and tiny Liechtenstein, between Switzerland and Austria, between Switzerland and Germany, and between France and Germany. Through Germany (illustration, below) the river flows in a general northwesterly direction, turning sharply west at the Netherlands line to enter the North Sea.

Note: The Kiel Canal and the Rhine River may be traced on the National Geographic Society's Map of Germany and Its Approaches.

Bulletin No. 2, October 8, 1945.



Berthold M. Hemme

BENEATH CASTLED HEIGHTS, THE RHINE FLOWS THROUGH HAUNTS OF LEGEND

In a cave on Drachenfels (Dragon's Rock, upper left) Siegfried slew the dragon. The *Nibelung* hero then bathed in the beast's blood to become invulnerable except where a leaf lodged against his skin. The Island of Nonnenwerth (foreground) was the convent home of Hildegunde, who retired here when she believed her lover—the French hero Roland—had been killed in the wars. On the opposite bank stands the town of Rhöndorf.

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U. S. Leadership in Motor Trucks Recalls Early Trade Ways

GOVERNMENT reports show that there are more motor trucks in the United States than in all the rest of the world combined—nearly five million trucks which, placed bumper to bumper, would form a line as long as the distance from New York City due east to Tokyo. Latest figures list United States commercial truck registration at 4,726,737; the rest of the world at 3,317,428.

Motor transport has not only improved and extended the world's highways (illustration, next page), but has in part restored to roads their early use and importance as channels of international trade. The past century has been unusual in the world's transportation history for the development and overshadowing importance of railroads. Before the first railroad was built, early in the 19th century, the world's goods and travelers moved over non-rigid roads.

Earliest Roads Transported Drugs, Amber, Silk

Through the centuries cattle paths trod by porters and pack animals have grown into caravan routes which in turn expanded into roads for wheeled traffic. From the earliest times, roads connected markets. Originally monopoly goods and valuable products alone could profitably bear the expense of the long and costly transport of world trade.

Before the luxurious days of the Roman Empire, precious stones, drugs, gums, and frankincense were imported from Arabia. From India, in addition, came pepper, pearls, tortoise shell, ebony, and ivory.

The earliest trails across prehistoric Europe took amber from the Baltic through the Brenner Pass to Italy, or by a shorter route to the ancient Adriatic port of Trieste. The Mediterranean demand for bronze built roads from the tin mines of Cornwall across southern England. After crossing the Channel the tin was carried overland by pack horses to the port of Marseille.

Chinese caravans composed mostly of camels carried silks to the commercial centers of Bactria where East met West in trade. Goods of India and Yemen crossed the Red Sea in more than a hundred ships to follow camel caravan routes to the Nile. Goods passed down the Nile for distribution from Alexandria, then the busiest port on the Mediterranean.

Inns Were Hotels and Freight Stations Combined

In the centuries before the coming of the railroad more and more highways carried a constantly growing world trade. Horse-drawn transport over the cobweb of roads centering in London, long England's principal seaport, was typical of pre-railway conditions.

In 1637 John Taylor published a shippers' guide for London merchants and manufacturers called "The Carriers' Cosmography." It lists various towns of England alphabetically, and 46 different London inns to which goods were delivered for shipment by wagons and carts from all over England.

Inns were the natural highway stations. In March, 1732, the Philadelphia Mercury advertised a carrier service between Burlington and Amboy, "once every week or oftener if that business presents." In this connection was offered "A very good storehouse, very commodious for the storing of any sort of merchants' goods free from any charges." In 1771, John Mercereau advertised that "The Waggons in Philadelphia set out from the Sign of the George, in Second Street."

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police as secret-society feuds and Oriental gang wars. Ticket brokers did a thriving business selling transportation to faithful Moslems bound for Mecca.

Most of the residents readily took to Western ways. They played tennis and basketball, rode bicycles, drove automobiles, listened to radios, attended movies, and adopted modern dance steps. Women looked to London and New York for their styles. Singapore was credited with the gaudiest dance halls in the Orient. Polo playing and horse racing were regular attractions. There were clubs devoted to golf, cricket, flying, and yachting.

Labor was skillful and cheap. Furniture, shoes, pottery, and rubber products were manufactured, and also candy, soap, soft drinks, biscuits, and cigarettes. Oil was extracted from coconuts and pineapples were canned at local factories.

For many years, wild animals that once roamed the island were captured and shipped to zoos and circuses in Europe and America. Tigers were once a menace to suburban dwellers. Pythons lived in drains, feeding on rats and frogs.

So strongly did the British fortify Singapore that it was considered "the Gibraltar of the East." But its chief defenses were built against attack by sea. Assault came by air and land when the Japanese moved down the Malay Peninsula from neighboring Siam. Resistance was then futile. The big guns of the sea approaches had little chance to prove their worth. About 70,000 British troops were captured along with the naval base when Singapore fell, on February 15, 1942.

Note: Singapore is shown on the Society's Map of Southeast Asia.

See also, "Life Grows Grim in Singapore," in the *National Geographic Magazine* for November, 1941*; "Behind the News in Singapore," July, 1940*; and "Singapore: Far East Gibraltar," May, 1938*.

Bulletin No. 3, October 8, 1945.

Maynard Owen Williams

DOMESTIC LAUNDRY AND BUSINESS SIGNS COMBINE IN A SINGAPORE STREET

Traffic made up of such assorted vehicles as bicycles, tricycles (right), and low-slung carts, rolls along this short cut from one of Singapore's main streets to the red and white striped firehouse. Under one of the many showy signs in Chinese characters hangs a modest one in English, advertising a well-known brand of cocoa (left). Laundry hung on poles projecting over the heads of passers-by adds a domestic touch to this business-section byway.

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Geo-Graphic Brevities

COCONUT OIL FROM THE PHILIPPINES RELIEVES SOAP SHORTAGE

FIRST STEPS toward a solution of America's soap shortage were taken when trade was resumed with the Philippines, the world's largest producer of copra and coconut oil. The general run of soaps in the United States contains from 15 to 25 per cent of coconut oil.

The Philippines product normally came to this country both as coconut oil and as copra, the dried meat of the coconut, which yields about 63 per cent oil. With well over a hundred million coconut trees, the islands were annually producing about 800,000 tons of copra.

Before the war there were eight large coconut-oil factories in the Philippines equipped with modern machinery; and about ten small plants. Together they produced about 170,000 tons of coconut oil for United States importers in 1939. Postwar shipments will come in the form of copra, as the Japs destroyed the mills for pressing the oil from coconut meat. Mills in the United States, mainly on the west coast, will process the copra.

Sugar was the principal prewar export from the Philippines, but sugar plantations will require replanting and time for the cane to mature. More Filipinos were dependent on the copra business—twice as many as on sugar plantations. The early resumption of the copra trade will thus help rehabilitate the islands.

Other prewar exports from the Philippines were principally abacá ("Manila hemp") for the cordage industry; tobacco, minerals, embroideries, and lumber. Rice is a leading crop (illustration, cover), but little is exported.

Much of the 1945 import tonnage of copra into the United States will be used in making soap. Soap-making is today a highly technical process, following test-tube formulas much different from the soap-kettle days of the pioneers. Tallow gives body and lasting quality to soap, but it takes coconut oil to make it lather freely, especially in hard water.

* * * * *

A SLICE OF ECUADOR'S ORIENTE NOW PART OF PERU'S MONTAÑA

ECUADOR and Peru have reached a formal and legal conclusion interpreting their 1942 boundary agreement. Recent cordial exchanges between the presidents of these "good-neighbor" republics indicated the essential faith of the two countries in their three-year-old understanding.

The agreement, called the Protocol of Peace, Friendship, and Boundaries, settled boundary disputes which had been the cause of intermittent border difficulties ever since Ecuador seceded amicably from Colombia in 1830. Flare-ups had occurred as recently as 1938 and 1941. The signing of the protocol in the month after Japan's attack on Pearl Harbor was greeted as welcome proof of the new Western Hemisphere determination for unity.

By far the largest area of land concerned in the agreement had been known for a century to Ecuadorians as their Oriente (east), and to Peruvians as their Montaña (the forested region beyond the mountains). It is a triangle of heavily wooded land twice as big as New York State. Walled off from the principal cities of both Peru and Ecuador by the high Andes range, it slopes eastward between the Marañon and Napo rivers to the upper-Amazon River port of Iquitos.

Without this big area the map outline of northern Peru would somewhat re-

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Though trucks in the United States today are hauling about one-fourth as many ton miles of freight as the railroads, serving many of the 54,000 communities that lack rail connections, the industry has developed few union trucking terminals. One was established in Indianapolis 25 years ago; other such terminals have been operating at Newark, Chicago, St. Louis, and Cincinnati.

Note: For further information, see "Your New World of Tomorrow," in the *National Geographic Magazine* for October, 1945; "Stilwell Road—Land Route to China," June, 1945; "Alaskan Highway an Engineering Epic," February, 1943*; "Burma Road: China Opens Her Wild West," September, 1942*; "U. S. Roads in War and Peace," December, 1941; "Along the Old Silk Routes," October, 1940*; and "Santa Fe Trail, Path to Empire," August, 1929*.

See also "Why the U. S. Drives to the Right and England to the Left," in the GEOGRAPHIC SCHOOL BULLETINS, March 26, 1945.

Bulletin No. 4, October 8, 1945.

J. Baylor Roberts

TRUCKS AND CARS SPIN IN AND OUT OF NEW YORK ON THE PULASKI SKYWAY

This New Jersey traffic wonder carries U. S. Highway 1 across the Jersey Meadows, over the Passaic and Hackensack rivers, and above surface congestion. It helps fruit trucks from Florida make a normal trip to New York in about 33 hours running time. In 1802 freight wagons running between Boston and Savannah, Georgia, required 22½ days.

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semble the jaws of a monkey wrench, gripping the disputed land on three sides. The 1942 protocol, however, awarded the major portion of the region to Peru. Later discussions have dealt with interpretation of difficulties in small areas affected by the protocol. Ecuador was not a total loser in the decision, as some of its claims were recognized by small changes in the north and south.

Since 1928, regular plane service has joined the jungleland of Montaña-Oriente with Lima and the Pacific. At Iquitos, Peru has developed a river-port city of 40,000 people to prepare cotton, coffee, waxes, and forest products for shipment 2,300 miles down the Amazon to the Atlantic. Less than two years ago, Peruvian engineers opened a long-planned motor truck highway over the Andes from Lima to Pucalpa, at the head of river-boat navigation on the Ucayali, 500 miles upstream from Iquitos. Thus the resources of the once-isolated region have been brought close to a river-auto route joining Atlantic and Pacific.

Petroleum is among the recently found resources of this well-watered jungleland. At the turn of the present century the region had a part in the rubber boom which built Manaus, Brazil, one of the most fantastic boom towns of all time, at the junction of the Negro River with the Amazon.

When earnest efforts were made a decade ago to settle the boundary dispute between Ecuador and Peru, the late President Roosevelt agreed to act as arbiter, but the meetings broke down before reaching the arbitration stage. In recent conferences charged with working out details of the 1942 protocol, Brazilian diplomats have successfully mediated.

Note: The region of the Ecuador-Peru 1942 boundary agreement may be located on the Society's Map of South America.

Bulletin No. 5, October 8, 1945.

Martin Chambi J.

MAN AND BEAST, BOTH BURDEN BEARERS, TRUDGE PERU'S MOUNTAINS

The haughty, high-headed llama, cousin to the camel, seldom allows himself to be led, never pulls a plow or wagon, will carry up to 120 pounds—but no more—on his back, but usually permits a man to ride him. If too heavily loaded, the llama lies down and will not budge; if over-urged by an impatient rider, he will turn around and spit a stream of evil-smelling saliva into the man's face. Llamas live only in the Andes. Most of the land which changed hands in the Peru-Ecuador boundary agreements lies across the Andes on the forested slopes of the Amazon watershed.